U.S. Department of Transportation

Intelligent Transportation Systems Standards Fact Sheet

SAE INTERNATIONAL ®

August 2000

SAE J2369 (Draft)
Standards for ATIS Message Sets Delivered Over Bandwidth Restricted Media

Overview

This standard defines the message set for the transmission of advanced traveler information system (ATIS) messages over bandwidth-restricted media such as high speed FM Subcarriers and other wireless devices. It provides a standardized message set and methodology for delivery of compressed ATIS messages of incident information and segment travel times, speeds and congestion values (both current and predicted).

It also provides overview material of a general nature concerning ATIS implementations on this media and a summary of the various network layers and other messages. It is written to provide a suitable background for both technical and non-technical readers with references to bit level details preceded by educational chapters. Extensive source code examples are provided for users of this standard as well.

To obtain a copy of this draft standard, please contact:

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Expected Publication Date:
September 2000

This standard covers technical details in three areas. It provides a conceptual background of various elements needed to understand the message encoding process itself. Subsequent sections contain precise definitions of the messages and data elements in the messages. It also provides implementation advice and comments for both receiver and encoder manufacturers.

What is this standard for?

This standard, **SAE J2369, Standards for ATIS Message Sets Delivered Over Bandwidth Restricted Media,** is intended primarily for systems designers who are building ATIS systems which require standardized message sets for interoperation with other message standards (such as SAE J2354, TMD External Message Set). Additionally, those who need to support multiple end use devices with a common message set over a bandwidth-limited channel will also find this standard useful.

Private and public data issuers who desire to reach the widest possible audience with "broadcast data" should use this format. It should be noted that broadcast data are data intended for the end user to sort and use rather than "point to point data" formatted and served to suit specific individual user requirements; such users should consult SAE J2354 for additional information. Used in conjunction with a local datum and the efficient LRMS GRID profile, SAE J2369 allows the correct exchange of messages among pieces of equipment with different manufactures and qualities of base maps. Automatic table generation and updating, which are part of the standard, makes it possible for travelers to enter a coverage area using this standard and to then download everything needed to begin operation in the local market from the transmitted data stream.

As a media independent format, this standard is suitable for use over most packet format wireless methods as well as use over internet wire line connections where large bitmaps are prohibitive to deliver. SAE J2369 does not, however, address methods of access denial or encryption, allowing the data provider to employ whatever (if any) methods desired. It does provide methods for combining both pubic and private data to allow a blend of "free" and "paid" content. It provides a number of compatible "evolutionary" messages for deployment areas where flow modeling and predictive information does not yet exist.

Who uses it?

This standard, **SAE J2369, Standards for ATIS Message Sets Delivered Over Bandwidth Restricted Media,** is intended for use by both private and public agencies that have a need to issue ATIS data to a consuming public over bandwidth restricted media. Because the message set (rather than the media of transport) existing in a standardized format, various receiving devices can obtain the information and decode it into useful formats (e.g., display, route navigation, status boards, transit

schedules, weather, etc.) without the need for a common level of equipment common features, or an agreed upon map. In combination with SAE J2354 and SAE J2374, this standard represents the effort to develop an industry consensus method to send and receive ATIS data to the public.

How is it used?

Typically, information of a broadband nature (ASCII text or TMDD Message sets data with cross street LRMS methods) is brought to an encoding device that extracts the entropy from the message information as it operates, comparing messages with any established datum - or building one as necessary. The output of this process, compressed message streams, can then be further sorted and filtered to meet the coverage area needs and formatted for the actual media to be used in transmission.

Upon reception by the using device, these packets are expanded back into more verbose formats, such as SAE J2354, for use in the end device. The management of required tables and compression objects needed by the receiving device is determined by the encoder as part of its operation (while most broadcast media are one-way in nature), such that all required information is sent in periodic rotations. Typically, other information of interest to a mobile consumer may be found on the same media channel, as well.

Scope

This standard outlines the U.S. standard for sending Advanced Traveler Information Services (ATIS) messages over various data pipes that support limited bandwidth, as is typically the case with mobile users. It specifies the message set format and method for such data messages at the "bit" level.

Related Documents

SAE J2353 – Advanced Traveler Information Systems (ATIS) Data Dictionary

SAE J2354 –Advanced Traveler Information Systems (ATIS) Message Set

SAE J2374 – Location Referencing Message Standard Information Report

For more information on ITS standards, contact the Federal Highway Administration, ITS Joint Program Office, Room 3401, HOIT, 400 7th Street, SW Washington, DC 20590, phone: 202-366-2180, fax: 202-366-3302, Web site: www.its.dot.gov/standard/standard.htm
Produced by the Jet Propulsion Laboratory for the U.S. Department of Transportation.